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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,600	09/04/2001	Seong-Deok Lee	030681-317	1689

7590 09/09/2004

Charles F. Wieland III  
BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
P.O. Box 1404  
Alexandria, VA 22313-1404

EXAMINER

LAVIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/944,600	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Christopher L Lavin	<b>Art Unit</b> 2621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 September 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang (WO 98/50869).
4. In regards to claims 1, 5, and 9, Chang discloses in the sentence starting on page 13, line 6 the step of dividing a video sequence into one or more shots (i.e. video clips) based scene changes. In the paragraph starting on page 13, line 20 Chang discloses that a key frame (i.e. current frame 401 in figure 4) is chosen from a shot. In the paragraph starting on page 14, line 29 Chang discloses that regions of having a consistent attribute, e.g. color, are extracted from the key frame. The regions in Chang function as the claimed “query object based initial regions”. Referring to the paragraph starting on page 15, line 3 Chang discloses a tracking system for tracking the regions obtained from the key frame throughout the shot. In the same paragraph Chang discloses that regions of interest are labeled on each frame.

5. Further in regards to claim 5, Chang discloses “a shot and key frame setting unit” on page 13, lines 7 – 8. Chang discloses “an initial object region extractor” in figure 4 through section 410, a quantizer unit, and 420, the edge mapper. Also in figure 4, “an object region tracker” represented by 431 the interframe projection unit described on page 15, lines 3 –17. Finally, “an object-labeled image generator” consists of units 432 and 433 in Figure 4 which are described in the lines starting on page 15, line 15 and ending at page 16, line 8.

6. As to claim 9, note the architecture in figure 1 of Chang, which includes a computers 110 and 130 and the computer readable medium comprising storage 112 and database 111.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 2 –4, and 6 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Ahanger (“Video Query Formulation”, Proceedings of the SPIE, SPIE, vol. 2420, 1995, pages 280 – 291).

11. In regards to claims 2 and 6, Chang as shown above in the rejection of claims 1, 5, and 9 discloses a video sequence querying having everything in common with claims 2 and 6, except Chang searches for query objects in a database, not through the actual frames of the video sequence.

12. Ahanger teaches on page 287 in paragraph four that a video sequence querying system could be implement to allow for on-the-fly indexing using user specified objects. In order to implement such a system the entire video sequence would have to be searched for the object.

13. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow user specified object searches (as taught by Ahanger) in the video sequence querying process. In order to implement user specified object

searches into Chang an object search would have to be performed in each key frame. A mask would then be created as Chang teaches in the paragraph starting on page 14, line 19. Implementing user specified object searches would allow the user to specify larger regions of interest that might be separated by Chang's current system. Thus allowing more logical indexing of the video sequence.

14. In regards to claims 3 and 7 Chang discloses in the paragraph starting on page 15, line 3 the tracking of object regions in all frames of a shot based on the mask created from the key frame. In the same paragraph Chang discloses that pixels belonging to a region are labeled as such. The end result of this labeling is a frame mask specifying the labeled areas as one value and the unlabeled as another value.

15. In regards to claims 4 and 8 Chang discloses in the paragraph starting on page 15, line 3 that regions are uniquely labeled. Inherent in such a labeling system is the use of numbers to identify the labels.

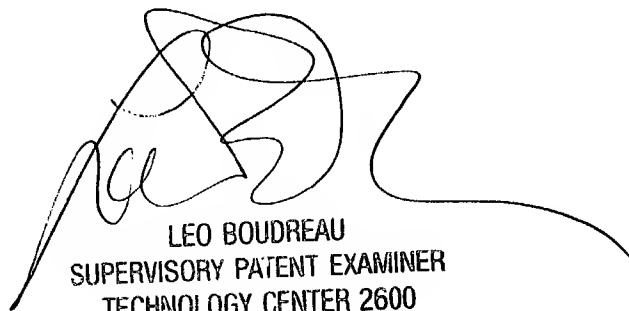
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L Lavin whose telephone number is 703-306-4220. The examiner can normally be reached on M - F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLL



LEO BOUDREAU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600